



TORQ Analysis of Hoist and Winch Operators to Paving, Surfacing, and Tamping Equipment Operators

INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Hoist and Winch Operators	53-7041.00	Abilities:	Importance Level: 50	Weight: 1
To Title:	Paving, Surfacing, and Tamping Equipment Operators	47-2071.00	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ:

84

Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	94	Level	83	Level	75

Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
Trunk Strength	46	9	50	No Skills Upgrade Required!				Building and Construction	64	44	80
Multilimb Coordination	57	6	62					Mechanical	61	4	69
Static Strength	50	6	50								
Selective Attention	44	5	53								
Deductive Reasoning	37	3	56								
Information Ordering	44	3	56								
Visualization	44	3	50								
Speech Recognition	37	2	56								
Flexibility of Closure	37	2	50								
Oral Expression	42	1	56								
Speech Clarity	35	1	56								

LEVEL and IMPT (IMPORTANCE) refer to the Target Paving, Surfacing, and Tamping Equipment Operators. GAP refers to level difference between Hoist and Winch Operators and Paving, Surfacing, and Tamping Equipment Operators.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Hoist and Winch Operators	Paving, Surfacing, and Tamping Equipment Operators	Importance



Problem Sensitivity	41	41	72
Control Precision	55	53	62
Multilimb Coordination	51	57	62
Oral Comprehension	51	46	59
Arm-Hand Steadiness	37	34	59
Manual Dexterity	39	39	59
Depth Perception	50	46	59
Oral Expression	41	42	56
Deductive Reasoning	34	37	56
Inductive Reasoning	37	37	56
Information Ordering	41	44	56
Rate Control	37	35	56
Near Vision	39	35	56
Hearing Sensitivity	41	41	56
Speech Recognition	35	37	56
Speech Clarity	34	35	56
Perceptual Speed	48	37	53
Selective Attention	39	44	53
Finger Dexterity	39	35	53
Reaction Time	50	48	53
Far Vision	39	35	53
Flexibility of Closure	35	37	50
Visualization	41	44	50
Static Strength	44	50	50
Trunk Strength	37	46	50
Extent Flexibility	50	44	50

Skill Level Comparison - Abilities with importance scores over 69

Description	Hoist and Winch Operators	Paving, Surfacing, and Tamping Equipment Operators	Importance
Equipment Maintenance	70	54	70

Knowledge Level Comparison - Knowledge with importance scores over 69






















Description	Hoist and Winch Operators	Paving, Surfacing, and Tamping Equipment Operators	Importance
Building and Construction	20	64	80
Mechanical	57	61	69

Experience & Education Comparison

Related Work Experience Comparison

Required Education Level Comparison



Hoist and Winch Operators			Paving, Surfacing, and Tamping Equipment Operators		
Description	Hoist and Winch Operators	Paving, Surfacing, and Tamping Equipment Operators	Description	Hoist and Winch Operators	Paving, Surfacing, and Tamping Equipment Operators
10+ years	2%  	8%	Doctoral	0%	0%
8-10 years	0%	0%	Professional Degree	0%	0%
6-8 years	0%	0%	Post-Masters Cert	0%	0%
4-6 years	21% 	1% 	Master's Degree	0%	0%
2-4 years	21% 	14% 	Post-Bachelor Cert	0%	0%
1-2 years	29% 	31% 	Bachelors	0%	0%
6-12 months	9% 	26% 	AA or Equiv	0%	0%
3-6 months	1% 	0%	Some College	8% 	0%
1-3 months	1% 	0%	Post-Secondary Certificate	23% 	14% 
0-1 month	0%	0%	High School Diploma or GED	41% 	66% 
None	12% 	17% 	No HSD or GED	26% 	18% 
Hoist and Winch Operators			Paving, Surfacing, and Tamping Equipment Operators		
Most Common Educational/Training Requirement:					
Moderate-term on-the-job training			Moderate-term on-the-job training		
Job Zone Comparison					
2 - Job Zone Two: Some Preparation Needed			2 - Job Zone Two: Some Preparation Needed		
Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.			Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.		
These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.			These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.		
Employees in these occupations need anywhere from a few months to one year of working with experienced employees.			Employees in these occupations need anywhere from a few months to one year of working with experienced employees.		

Tasks

Hoist and Winch Operators	Paving, Surfacing, and Tamping Equipment Operators
Core Tasks	Core Tasks
Generalized Work Activities:	Generalized Work Activities:
<ul style="list-style-type: none"> Repairing and Maintaining Mechanical Equipment - Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles. Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things. Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources. Operating Vehicles, Mechanized Devices, or Equipment - Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft. 	<ul style="list-style-type: none"> Operating Vehicles, Mechanized Devices, or Equipment - Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft. Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources. Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things. Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).



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Specific Tasks

Occupation Specific Tasks:

- Apply hand or foot brakes and move levers to lock hoists or winches.
- Attach, fasten, and disconnect cables or lines to loads, materials, and equipment, using hand tools.
- Climb ladders in order to position and setup vehicle-mounted derricks.
- Move levers, pedals, and throttles in order to stop, start, and regulate speeds of hoist or winch drums in response to hand, bell, buzzer, telephone, loud-speaker, or whistle signals, or by observing dial indicators or cable marks.
- Move or reposition hoists, winches, loads and materials, manually or using equipment and machines such as trucks, cars, and hand trucks.
- Observe equipment gauges and indicators and hand signals of other workers in order to verify load positions and/or depths.
- Oil winch drums so that cables will wind smoothly.
- Operate compressed air, diesel, electric, gasoline, or steam-driven hoists or winches in order to control movement of cableways, cages, derricks, draglines, loaders, railcars, or skips.
- Repair, maintain, and adjust equipment, using hand tools.
- Select loads or materials according to weight and size specifications.
- Signal and assist other workers loading or unloading materials.
- Start engines of hoists or winches and use levers and pedals to wind or unwind cable on drums.
- Tend auxiliary equipment such as jacks, slings, cables, or stop blocks, in order to facilitate moving items or materials for further processing.

Detailed Tasks

Detailed Work Activities:

- inspect material moving equipment
- load, unload, or stack containers, materials, or products
- maintain or repair construction machinery or equipment
- operate cargo handling gear
- operate hoist, winch, or hydraulic boom
- operate material moving, loading, or

- Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

Specific Tasks

Occupation Specific Tasks:

- Control paving machines to push dump trucks and to maintain a constant flow of asphalt or other material into hoppers or screeds.
- Coordinate truck dumping.
- Cut or break up pavement and drive guardrail posts, using machines equipped with interchangeable hammers.
- Drive and operate curbing machines to extrude concrete or asphalt curbing.
- Drive machines onto truck trailers, and drive trucks to transport machines and material to and from job sites.
- Fill tanks, hoppers, or machines with paving materials.
- Inspect, clean, maintain, and repair equipment, using mechanics' hand tools, or report malfunctions to supervisors.
- Install dies, cutters, and extensions to screeds onto machines, using hand tools.
- Light burners or start heating units of machines, and regulate screed temperatures and asphalt flow rates.
- Observe distribution of paving material to adjust machine settings or material flow, and indicate low spots for workers to add material.
- Operate machines that clean or cut expansion joints in concrete or asphalt and that rout out cracks in pavement.
- Operate machines to spread, smooth, level, or steel-reinforce stone, concrete, or asphalt on road beds.
- Operate oil distributors, loaders, chip spreaders, dump trucks, and snow plows.
- Operate tamping machines or manually roll surfaces to compact earth fills, foundation forms, and finished road materials, according to grade specifications.
- Place strips of material such as cork, asphalt, or steel into joints, or place rolls of expansion-joint material on machines that automatically insert material.
- Set up and tear down equipment.
- Set up forms and lay out guidelines for curbs, according to written specifications, using string, spray paint, and concrete/water mixes.
- Shovel blacktop.
- Start machine, engage clutch, and push and move levers to guide machine along forms or guidelines and to control the operation of machine attachments.



Unloading Equipment

- perform safety inspections in construction or resource extraction setting
- set up specialized rigging
- use hand or power tools
- use measuring devices in construction or extraction work

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- clean equipment or machinery
- drive truck with capacity greater than 3 tons
- install equipment or attachments on machinery or related structures
- load or unload material or workpiece into machinery
- maintain or repair construction machinery or equipment
- measure, weigh, or count products or materials
- monitor production machinery/equipment operation to detect problems
- operate earth-moving or other heavy construction equipment
- perform safety inspections in construction or resource extraction setting
- prepare site or surfaces for concrete or masonry work
- read specifications
- read work order, instructions, formulas, or processing charts
- understand construction specifications
- use hand or power tools
- use measuring devices in construction or extraction work

Tools - Examples

- Adjustable wrenches
- Paving finishing machines
- Asphalt distributor trucks
- Chip spreaders
- Cold in-place recyclers
- Compactors
- Vibrating concrete screeds
- Paving curbing machines
- Desktop computers
- Dump trucks
- Flatbed truck trailers
- Motor graders
- Claw hammers
- Asphalt heating equipment



- Transits
- Laser levels
- Locking pliers
- Surveying tapes
- Milling equipment
- Profiling equipment
- Nut drivers
- Pavement marking machines
- Pneumatic paving breakers
- Asphalt mixing equipment
- Personal computers
- Jackhammers
- Concrete saws
- Self-contained breathing apparatus
- Respirators
- Asphalt paving machines
- Road heater-planers
- Manual rollers
- Straight screwdrivers
- Snow plows
- Straightedges
- String lines
- Tamping machines
- Two way radios
- Wheeled loaders

Labor Market Comparison

Description	Hoist and Winch Operators	Paving, Surfacing, and Tamping Equipment Operators	Difference
Median Wage	N/A	\$ 25,520	N/A
10th Percentile Wage	N/A	\$ 18,390	N/A
25th Percentile Wage	N/A	N/A	N/A



75th Percentile Wage	N/A	\$ 30,060	N/A
90th Percentile Wage	N/A	\$ 36,900	N/A
Mean Wage	N/A	\$ 26,340	N/A
Total Employment - 2007	N/A	320	N/A
Employment Base - 2016	N/A	324	N/A
Projected Employment - 2016	N/A	327	N/A
Projected Job Growth - 2006-2016	N/A	0.9 %	N/A
Projected Annual Openings - 2006-2016	N/A	7	N/A

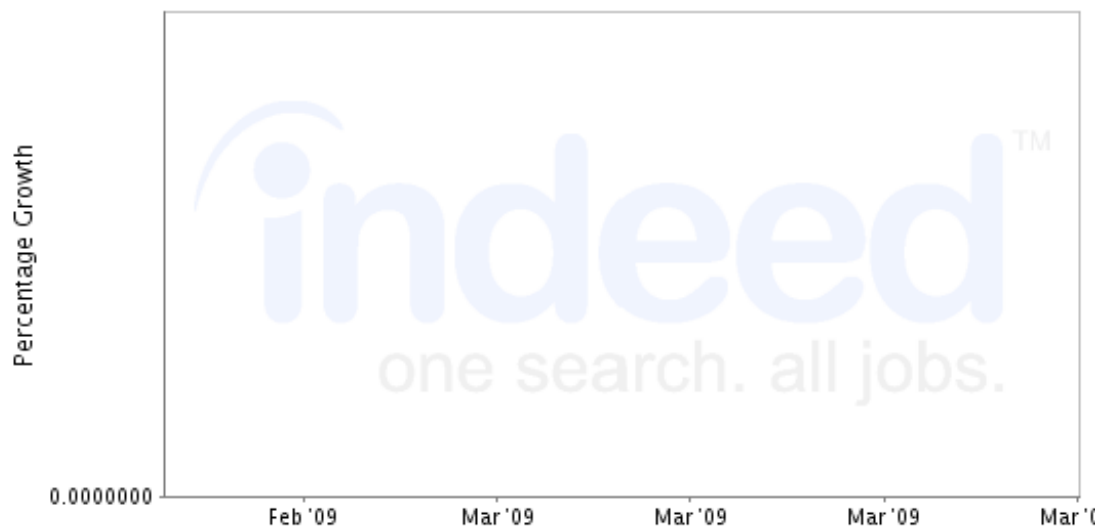
National Job Posting Trends

Trend for Hoist and Winch Operators

Trend for
Paving,
Surfacing,
and
Tamping
Equipment
Operators

Job Trends from Indeed.com

— Hoist and Winch Operator — Paving Surfacing Tamping Equipment Operator

Data from [Indeed](http://Indeed.com)

Recommended Programs

Construction Equipment Operator

Construction/Heavy Equipment/Earthmoving Equipment Operation. A program that prepares individuals to apply technical knowledge and skills to operate and maintain a variety of heavy equipment, such as a crawler tractors, motor graders and scrapers, shovels, rigging devices, hoists, and jacks. Includes instruction in digging, ditching, sloping, stripping, grading, and backfilling, clearing and excavating.

Institution	Address	City	URL
Washington County Community College	One College Drive	Calais	www.wccc.me.edu



Maine Statewide Promotion Opportunities for Hoist and Winch Operators

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
53-7081.00	Refuse and Recyclable Material Collectors	85	2	930	\$22,780.00	\$22,780.00	1%	37
47-2071.00	Paving, Surfacing, and Tamping Equipment Operators	84	2	320	\$25,520.00	\$25,520.00	1%	7
51-7041.00	Sawing Machine Setters, Operators, and Tenders, Wood	84	2	700	\$24,790.00	\$24,790.00	-8%	15
51-9196.00	Paper Goods Machine Setters, Operators, and Tenders	84	2	910	\$38,230.00	\$38,230.00	-26%	23
47-5021.00	Earth Drillers, Except Oil and Gas	83	3	140	\$37,470.00	\$37,470.00	2%	4
53-7021.00	Crane and Tower Operators	83	3	240	\$41,940.00	\$41,940.00	-2%	4
51-4121.06	Welders, Cutters, and Welder Fitters	83	2	1,610	\$38,030.00	\$38,030.00	7%	49
51-9191.00	Cementing and Gluing Machine Operators and Tenders	83	1	80	\$27,620.00	\$27,620.00	-15%	2
37-3011.00	Landscaping and Groundskeeping Workers	82	1	4,040	\$24,450.00	\$24,450.00	12%	130
43-5041.00	Meter Readers, Utilities	82	1	90	\$31,240.00	\$31,240.00	-11%	3
51-7042.00	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	82	2	900	\$23,040.00	\$23,040.00	-12%	23
51-9041.00	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	82	2	260	\$28,330.00	\$28,330.00	-7%	5
53-7032.00	Excavating and Loading Machine and Dragline Operators	82	2	330	\$32,160.00	\$32,160.00	6%	8



47-4071.00	Septic Tank Servicers and Sewer Pipe Cleaners	81	2	160	\$30,300.00	\$30,300.00	2%	4
51-2031.00	Engine and Other Machine Assemblers	81	3	20	\$29,010.00	\$29,010.00	-45%	1

Top Industries for Paving, Surfacing, and Tamping Equipment Operators

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Highway, street, and bridge construction	237300	32.60%	20,949	22,554	7.66%
Other specialty trade contractors	238900	29.66%	19,061	21,067	10.52%
Local government, excluding education and hospitals	939300	23.93%	15,377	17,274	12.34%
Poured concrete foundation and structure contractors	238110	2.31%	1,484	1,673	12.73%
Petroleum and coal products manufacturing	324100	1.97%	1,264	955	-24.51%
Self-employed workers, secondary job	000602	1.34%	863	859	-0.45%
State government, excluding education and hospitals	929200	0.77%	493	484	-1.87%
Other heavy and civil engineering construction	237900	0.59%	381	409	7.41%
Self-employed workers, primary job	000601	0.44%	283	301	6.54%
Management of companies and enterprises	551100	0.38%	243	280	15.28%
Employment services	561300	0.33%	215	272	26.56%
Land subdivision	237200	0.33%	211	211	-0.15%
Nonresidential building construction	236200	0.33%	215	241	12.05%
Waste collection	562100	0.30%	196	247	26.08%
Power and communication line and related structures construction	237130	0.21%	138	145	5.20%

Top Industries for Hoist and Winch Operators

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Support activities for water transportation	488300	9.78%	295	342	15.75%
Logging	113310	8.08%	244	201	-17.33%
Electric power generation, transmission and distribution	221100	6.64%	200	184	-8.03%
Support activities for road transportation	488400	6.46%	195	214	9.96%
Cement and concrete product manufacturing	327300	4.04%	122	132	8.55%



Sawmills and wood preservation	321100	3.60%	109	87	-19.82%
Support activities for mining	213100	2.85%	86	81	-5.93%
Nonmetallic mineral mining and quarrying	212300	2.04%	62	66	7.34%
Local government, excluding education and hospitals	939300	2.03%	61	69	12.33%